

What is claimed is:

1. A display apparatus, comprising:

a display unit having a view angle-limiting filter  
on a surface thereof;

a rotary mechanism which rotates the display unit;  
and

a control unit for implementing control so that when  
the display unit, rotated by the rotary mechanism, is faced  
to each of plural directions, the display unit displays a  
different text or image content associated with the  
direction.

2. A display apparatus according to claim 1 wherein  
the control unit includes an angle detection unit for  
detecting the plural directions the display unit is faced  
to.

3. A display apparatus, comprising:

a display unit having a view angle-limiting filter  
on a surface thereof;

a rotary mechanism which rotates the display unit;  
a detection unit for detecting a direction extending  
through a viewer; and

a control unit for implementing control so that when  
the display unit, rotated by the rotary mechanism, is faced  
to the detected direction extending through a viewer, the  
display unit displays a text or image content associated

with the detected direction.

4. A display apparatus according to claim 1 wherein the display unit comprises a display.

5. A display apparatus according to claim 3 wherein the display unit comprises a display.

6. A display apparatus according to claim 1 wherein the display unit comprises a display screen to which text or image information is projected by an electronic projector.

7. A display apparatus according to claim 3 wherein the display unit comprises a display screen to which text or image information is projected by an electronic projector.

8. A display apparatus according to claim 1 wherein the control unit includes a memory unit to store the text or image information to be displayed by the display unit.

9. A display apparatus according to claim 3 wherein the control unit includes a memory unit to store the text or image information to be displayed by the display unit.

10. A display apparatus, comprising:

a screen having a view angle-limiting filter on a surface thereof;

a rotary mechanism which rotates the screen; and

an electronic projector which, when the screen, rotated by the rotary mechanism, is faced to each of plural directions, projects a different text or image content

associated with the direction to the screen.

11. A display apparatus, comprising:

a screen having a view angle-limiting filter on a surface thereof;

a rotary mechanism which rotates the screen;

an electronic projector which projects an image comprising a plurality of text or image contents different from each other; and

a projection optical system in which the image projected from the electronic projector is divided into the plurality of text or image contents and each of the plurality of text or image contents is projected to the screen when the screen, rotated by the rotary mechanism, is faced to associated one of plural directions.

12. A display apparatus according to claim 10 wherein a three-dimensional image is formed by the plurality of text or image contents different from each other.

13. A display apparatus according to claim 11 wherein a three-dimensional image is formed by the plurality of text or image contents different from each other.

14. A display apparatus according to claim 10, further comprising an acquiring unit for acquiring the contents to be projected from the electronic projector and storing the contents in a memory unit;

wherein the acquiring unit reads out the contents stored in the memory unit so as to supply the contents to the electronic projector.

15. A display apparatus according to claim 11, further comprising an acquiring unit for acquiring the contents to be projected from the electronic projector and storing the contents in a memory unit;

wherein the acquiring unit reads out the contents stored in the memory unit so as to supply the contents to the electronic projector.

16. A display apparatus according to claim 10, further comprising:

a detection unit for detecting a rotation angle of the screen; and

a control unit for controlling off time of the electronic projector in accordance with the detected rotation angle.

17. A display apparatus according to claim 11, further comprising:

a detection unit for detecting a rotation angle of the screen; and

a control unit for controlling off time of the electronic projector in accordance with the detected rotation angle.

18. A display apparatus, comprising:

a display unit having a view angle-limiting filter

on a surface thereof;

a rotary mechanism which rotates the display unit;  
and

a control unit for implementing control so that when the display unit, rotated by the rotary mechanism, is faced to each of plural directions, the display unit displays a different text or image content associated with the direction;

wherein the view angle-limiting filter is configured to have an angle such that when a certain distance exists between a viewer and the display unit, the viewer's eyes view respective different pieces of text or image information on the display unit.

19. A display apparatus according to claim 10,  
further comprising:

a projection mirror group of plural mirrors arranged cylindrically so as to surround the screen and a rotary axis of the rotary mechanism; and

an overhead mirror mounted to a plane perpendicular to an extension of the rotary axis of the rotary mechanism;

wherein the content projected from the electronic projector reaches the screen via the projection mirror group and the overhead mirror.

20. A display apparatus according to claim 11  
wherein said projection optical system comprises a projection mirror group of plural mirrors arranged

cylindrically so as to surround the screen and a rotary axis of the rotary mechanism and an overhead mirror mounted to a plane perpendicular to an extension of the rotary axis of the rotary mechanism, wherein the content projected from the electronic projector reaches the screen via the projection mirror group and the overhead mirror.

21. A display apparatus according to claim 10 wherein said screen is a directional reflection screen.

22. A display apparatus according to claim 11 wherein said screen is a directional reflection screen.

23. A display apparatus according to claim 10 wherein said screen is a semi-permeable screen.

24. A display apparatus according to claim 11 wherein said screen is a semi-permeable screen.

25. A display apparatus according to claim 23, further comprising:

a projection mirror group comprises plural mirrors which are arranged semi-cylindrically;

wherein the content projected from the electronic projector reaches the screen via the projection mirror group.

26. A display apparatus according to claim 24, wherein said projection optical system provides a projection mirror group which comprises plural mirrors which are arranged semi-cylindrically, wherein the content projected from the electronic projector reaches the screen

via the projection mirror group.

27. A display apparatus according to claim 12, further comprising a sensor which detects a position or motion of a user;

wherein the content to be projected from the electronic projector is rotated in accordance with the detected position or motion of the user so as to change the content to be projected to the screen from each direction and thereby rotate the formed three-dimensional image.

28. A display apparatus according to claim 13, further comprising a sensor which detects a position or motion of a user;

wherein the content to be projected from the electronic projector is rotated in accordance with the detected position or motion of the user so as to change the content to be projected to the screen from each direction and thereby rotate the formed three-dimensional image.

29. An image pickup apparatus picking up images for a display apparatus comprising a screen; a rotary mechanism for rotating the screen; and a projection mirror group of plural mirrors arranged cylindrically by which the images projected from a projector is reflected to the rotating screen; wherein the images reflected to the rotating screen are formed as a three-dimensional image, said image pickup apparatus comprising:

an image pickup mirror group which is arranged

cylindrically in the same manner as the projector mirror group so as to surround an object and which has the same number of mirrors as the projector mirror group; and

an image pickup unit which picks up an image group of the object as a single image for said display apparatus after the image group is reflected by the image pickup mirror group.

30. An image pickup apparatus according to claim 29 wherein the cylindrical diameter and mirror size of said image pickup mirror group are determined depending on the size of said object independently of those of said projection mirror group.

31. An image pickup apparatus according to claim 29, further comprising a communication unit communicating with the display apparatus, wherein the image picked up for the display apparatus is transmitted from the communication unit to the display apparatus.